STATEMENT OF BASIS

Grede II, LLC
Columbiana, Alabama
Shelby County
411-0031

This proposed Title V Major Source Operating Permit renewal is issued under the provisions of ADEM Admin. Code R. 335-3-16. The above named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit. The Title V Major Source Operating Permit renewal was due at the Department by May 12, 2016, the application was received at the Department on May 12, 2016.

The significant sources of air pollutants at this facility are:

Four Electric Induction Furnaces with Ductile Treatment:
- Induction Furnaces No.1 and No.2 (4.67 TPH) and Ductile Treatment with Baghouse
- Induction Furnace No.3 (16.17 TPH) and Ductile Treatment with Baghouse
- Induction Furnace No.4 (16.0 TPH shares power supply with 16.17 TPH furnace) and Ductile Treatment with Baghouse

Inoculation
Natural Gas-Fired Scrap Preheater with Baghouse
Molding Line A with Baghouse
Molding Line B with Baghouse
Wheelabrator Shotblast with Baghouse
Molding Line C with Baghouse
Goff Hanger Table Shotblast with Baghouse
Continuous Shotblast with Baghouse
Grinding Stations with Baghouse
Surface Coating/Painting Line
Pouring and Cooling (Line A&B&C)
Scrap Handling & Drying

The facility is currently manned approximately 7488 hours per year. Based on the Title V permit application, this facility is a potential major source for Particulate Matter (PM), Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs).

MACT Applicability

This facility is subject to the applicable requirements of 40 CFR part 63 Subpart EEEEE, *"National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries"*. Grede II - Columbiana must be in compliance with the emissions limitations, work practice standards, and operation and maintenance requirements in this subpart at all times, except during periods of startup, shutdown, or malfunction where deviations are not violations if the facility demonstrates to the Departments satisfaction that the facility was operating in accordance with § 63.6(e). To demonstrate compliance, the facility

must conduct initial and subsequent performance tests for all emission sources subject to an emissions limit. This subpart covers emissions from metal melting electric induction furnaces, natural gas-fired scrap preheaters, and pouring station (line C) located at Grede II - Columbiana. This subpart also covers fugitive emissions from foundry operations.

Also, this facility is subject to the applicable requirements of 40 CFR part 63 Subpart MMMM, "*National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products"*. Miscellaneous metal parts include, but are not limited to, motor vehicles parts and accessories. Grede II - Columbiana applies primer paint to its castings with the use of a dip tank. To determine compliance with this subpart, the facility has chosen the emission rate without add-on controls compliance option. The initial compliance period began on January 2, 2007, and ends on the last day of the 12th month following the compliance date.

Production Process Overview

Grede II, LLC, located in Columbiana, Alabama, is a gray and ductile iron foundry. The foundry uses three "lost foam" mold lines to produce castings. Molten metal, from scrap melted in four electric induction furnaces, is poured into these mold lines. Once the castings cool, they are removed from the sand during the shakeout process. The facility uses several shotblasts and grinding stations to remove excess sand and metal. Grede II, LLC manufactures ductile and gray iron castings for the automotive, light and heavy truck, and industrial markets.

Four Induction Furnaces with Ductile Treatment vented to Baghouse:

Emissions Standards:

- **Particulate Matter Emission Standard**

1. Particulate matter emission from the Induction Furnaces No.1 and No.2 (4.67 TPH) with Ductile Treatment, Induction Furnace No.3 (16.17 TPH) with Ductile Treatment, Induction Furnace No. 4 (16.0 TPH) with Ductile Treatment, and Scrap Preheater shall not exceed the lesser of the Anti-PSD combined limit of 3.93 lb/hr or the allowable as set by rule 335-3-4-.04.

   ADEM Admin. Code R. 335-3-14-.04(8) Anti-PSD

   and

   $E = 3.59(P)^{0.62}$ ($P < 30$ tons/hr)
   $E=17.31(P)^{0.16}$ ($P \geq 30$ tons/hr)
   Where E = Emissions in pounds per hour
   P = Process weight per hour in tons per hour

   ADEM Admin. Code R. 335-3-4-.04

2. The facility shall not melt more than 61,875 tons of iron in any consecutive rolling twelve month period.

ADEM Admin. Code R. 335-3-14-.04(8) Anti-PSD

3. Induction Furnace No. 4 (16.0 TPH) shall not melt scrap when the 16.17 TPH induction furnace is melting.

   ADEM Admin. Code R. 335-3-14-.04(8) Anti-PSD

4. Particulate matter emissions from each electric induction furnace shall not exceed 0.005 gr/dscf or, alternatively, metal hazardous air pollutants emissions shall not exceed 0.0004 gr/dscf.

   40 CFR §63.7690 (a) (1) Subpart EEEEE

5. The facility must comply with the scrap certification or scrap selection and inspection program specified in 40 CFR §63.7700.

   40 CFR §63.7700 (a) through (f) Subpart EEEEE

- **Opacity Standards**

1. Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

   ADEM Admin. Code R. 335-3-4-.01(1)

2. Each building or structure housing any emission source must not discharge any fugitive emissions to the atmosphere that exhibit opacity greater than 20 percent (6-minute average); except for one 6-minute average per hour that does not exceed 27 percent opacity.

   40 CFR §63.7690 (a) (7) Subpart EEEEE

Expected Emissions:

- **Particulate Matter Emissions**

Expected combined particulate matter emissions from these units are 0.83 lb/hr or 2.05 tons/yr. This is based on the AP-42 emissions factors, production limit of 61,875 tons/yr, and 99% control efficiency.

Periodic Monitoring:

- **Particulate Matter/Opacity Emissions**

1. This facility shall perform a visual check, once per day, of the baghouse(s) stack associated with these units. This check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 15% opacity are observed, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

2. The capture system associated with these units must comply with the operation and maintenance requirements specified in 63.7710.

   40 CFR §63.7710 Subpart EEEEE

3. The facility must comply with the applicable monitoring requirements specified in 40 CFR 63.7740(a)(2)(b)(1-8),63.7741(a)(1-3), and 63.7742(a)(c) Subpart EEEEE as applicable.

   40 CFR §63.7740, §63.7741, and §63.7742 Subpart EEEEE

Compliance Assurance Monitoring (CAM)

Each unit's potential pre-control emissions are less than the major source thresholds. Therefore, these units would not be subject to Compliance Assurance Monitoring (CAM).

Natural Gas-Fired Scrap Preheater with Baghouse:

Emissions Standards:

- **Particulate Matter Emission Standard**

1. Particulate matter emission from the Two Induction Furnaces (4.67 TPH) with Ductile Treatment, Induction Furnace (16.17 TPH) with Ductile Treatment, Induction Furnace No. 4 (16.0 TPH) with Ductile Treatment, and Scrap Preheater shall not exceed the lesser of the Anti-PSD combined limit of 3.93 lb/hr or the set by rule 335-3-4-.04.

   ADEM Admin. Code R. 335-3-14-.04(8) Anti-PSD

and

$E = 3.59(P)^{0.62}$ ($P < 30$ tons/hr)

$E=17.31(P)^{0.16}$ ($P \geq 30$ tons/hr)
Where E = Emissions in pounds per hour
P = Process weight per hour in tons per hour

ADEM Admin. Code R. 335-3-4-.04

2. Particulate matter emissions from this unit shall not exceed 0.005 gr/dscf or, alternatively, metal hazardous air pollutants emissions shall not exceed 0.0004 gr/dscf.

   40 CFR §63.7690 (a)(1) Subpart EEEEE

3. The facility must comply with the scrap certification or scrap selection and inspection program specified in 40 CFR 63.7700.

   40 CFR §63.7700 Subpart EEEEE

4. For each scrap preheater, the facility must install, operate, and maintain the preheater where the flame directly contacts the scrap charged; or, charge material that is subject to and in compliance with the scrap certification program or meet the VOHAP limit specified in §63.7690 (a)(9).

   40 CFR §63.7700 (e) Subpart EEEEE

- **Opacity Standards**

1. Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

   ADEM Admin. Code R. 335-3-4-.01(1)

2. Each building or structure housing any emission source must not discharge any fugitive emissions to the atmosphere that exhibit opacity greater than 20 percent (6-minute average); except for one 6-minute average per hour that does not exceed 27 percent opacity.

   40 CFR §63.7690 (a) (7) Subpart EEEEE

Expected Emissions:

- **Particulate Matter Emissions**

  Expected particulate emissions from this unit are 0.002 lb/hr or 0.01 TPY. This is based on AP-42 emissions factors, 4500 operating hours per year, and a control efficiency of 99%.

Periodic Monitoring:

- **Particulate Matter/Opacity Emissions**

1. This facility shall perform a visual check, once per day, of the baghouse(s) stack associated with these units. This check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 15% opacity are observed, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

2. The facility must comply with the scrap certification or scrap selection and inspection program specified in 40 CFR §63.7700.

   40 CFR §63.7700 Subpart EEEEE

3. The capture system associated with these units must comply with the operation and maintenance requirements specified in 63.7710.

   40 CFR §63.7710 Subpart EEEEE

4. The facility must comply with the applicable monitoring requirements specified in 40 CFR §63.7740, §63.7741, and §63.7742.

   40 CFR §63.7740, §63.7741, and §63.7742 Subpart EEEEE

Compliance Assurance Monitoring (CAM)

This unit's potential pre-control emissions are less than the major source thresholds. Therefore, this unit would not be subject to Compliance Assurance Monitoring (CAM).

Molding Line A with Baghouse:

Note. *As stated in a letter from EPA to the Department, dated August 10, 2005, lost foam molding was not included in the definition of molding line in the Iron and Steel foundries MACT.*

Emissions Standards:

- **Particulate Matter Emission Standard**

1. Particulate emissions from Molding Line A (Lost Foam Casting Unit, Lost Foam Shakeout, and Sand System) shall not exceed the lesser of the Anti-PSD combined particulate emissions limit of 1.84 lb/hr out of the baghouse stack or the process weight allowable.

   ADEM Admin. Code R. 335-3-14-.04 (8)

and

$E = 3.59(P)^{0.62}$ ($P < 30$ tons/hr)
$E=17.31(P)^{0.16}$ ($P \geq 30$ tons/hr)
Where E = Emissions in pounds per hour
P = Process weight per hour in tons per hour

ADEM Admin. Code R. 335-3-4-.04

- **Opacity Standards**

1. Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

   ADEM Admin. Code R. 335-3-4-.01(1)

2. Each building or structure housing any emission source must not discharge any fugitive emissions to the atmosphere that exhibit opacity greater than 20 percent (6-minute average); except for one 6-minute average per hour that does not exceed 27 percent opacity.

   40 CFR §63.7690 (a) (7) Subpart EEEEE

Expected Emissions:

- **Particulate Matter Emissions**

Expected particulate emissions from Molding Line A are 1.57 lb/hr and 3.53 TPY. This is based on the AP-42 emissions factors, 4500 operating hours per year, and a control efficiency of 99%.

Periodic Monitoring:

- **Opacity Emissions**

1. This facility shall perform weekly inspection of the baghouse(s) to verify proper operation. The following activities shall be performed:

    (a) Once per week check hopper, fan and cleaning cycle for proper operation.
    (b) Once per week a visual check of all hoods and ductwork.

2. This facility shall perform an annual inspection of the baghouse(s) to verify proper operation. The following activities shall be performed:

    (a) Once per year inspect baghouse(s) structure, access doors, door seals, and bags.
    (b) Once per year perform an internal inspection of the baghouse(s) hoppers.

Compliance Assurance Monitoring (CAM)-Particulate Matter

This unit has potential pre-control particulate matter emissions greater than the major source amount and is controlled by a baghouse. CAM is applicable to this unit for the particulate matter emissions. The facility has proposed to monitor the visible emissions from the baghouse daily during operations by someone trained in method 9 opacity reading. Also, the facility proposed to monitor the pressure drop across the baghouse daily.

Molding Line B with Baghouse:

Note. *As stated in a letter from EPA to the Department, dated August 10, 2005, lost foam molding was not included in the definition of molding line in the Iron and Steel foundries MACT.*

Emissions Standards:

- **Particulate Matter Emission Standard**

1. Particulate emissions from Molding Line B (Lost Foam Casting Unit, Lost Foam Shakeout, Sand System, and Wheelabrator Shotblast) shall not exceed the lesser of the Anti-PSD combined particulate emissions limit of 2.73 lb/hr out of the baghouse stack or the process weight allowable.

    ADEM Admin. Code R. 335-3-14-.04 (8)

and

$E = 3.59(P)^{0.62}$ ($P < 30$ tons/hr)

$E=17.31(P)^{0.16}$ ($P \geq 30$ tons/hr)
Where E = Emissions in pounds per hour
P = Process weight per hour in tons per hour

ADEM Admin. Code R. 335-3-4-.04

- **Opacity Standards**

1. Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

   ADEM Admin. Code R. 335-3-4-.01(1)

2. Each building or structure housing any emission source must not discharge any fugitive emissions to the atmosphere that exhibit opacity greater than 20 percent (6-minute average); except for one 6-minute average per hour that does not exceed 27 percent opacity.

   40 CFR §63.7690 (a) (7) Subpart EEEEE

Expected Emissions:

- **Particulate Matter Emissions**

Expected particulate emissions from Molding Line B are 0.64 lb/hr and 1.44 TPY. This is based on the AP-42 emissions factors, 4500 operating hours per year, and a control efficiency of 99%.

Periodic Monitoring:

- **Opacity Emissions**

1. This facility shall perform weekly inspection of the baghouse(s) to verify proper operation. The following activities shall be performed:

   (a) Once per week check hopper, fan and cleaning cycle for proper operation.
   (b) Once per week a visual check of all hoods and ductwork.

2. This facility shall perform an annual inspection of the baghouse(s) to verify proper operation. The following activities shall be performed:

(a) Once per year inspect baghouse(s) structure, access doors, door seals, and bags.
(b) Once per year perform an internal inspection of the baghouse(s) hoppers.

Compliance Assurance Monitoring (CAM)-Particulate Matter

This unit has potential pre-control particulate matter emissions greater than the major source amount which is controlled by a baghouse. CAM is applicable to this unit for the particulate matter emissions. The facility has proposed to monitor the visible emissions from the baghouse daily during operations by someone trained in method 9 opacity reading. Also, the facility proposed to monitor the pressure drop across the baghouse daily.

Wheelabrator Shotblast with Baghouse:

Emissions Standards:

- **Particulate Matter Emission Standard**

Particulate emissions from Wheelabrator Shotblast shall not exceed the lesser of the Anti-PSD combined particulate emissions limit of 2.73 lb/hr out of the baghouse stack or the process weight allowable.

ADEM Admin. Code R. 335-3-14-.04 (8)

and

$E = 3.59(P)^{0.62}$ ($P < 30$ tons/hr)
$E=17.31(P)^{0.16}$ ($P \geq 30$ tons/hr)
Where E = Emissions in pounds per hour
P = Process weight per hour in tons per hour

ADEM Admin. Code R. 335-3-4-.04

- **Opacity Standards**

1. Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

2. Each building or structure housing any emission source must not discharge any fugitive emissions to the atmosphere that exhibit opacity greater than 20 percent (6-minute average); except for one 6-minute average per hour that does not exceed 27 percent opacity.

40 CFR §63.7690 (a) (7) Subpart EEEEE

Expected Emissions:

- **Particulate Matter Emissions**

Expected particulate emissions from the Wheelabrator Shotblast are 0.51 lb/hr or 1.15 TPY. These emissions are based on 4500 operating hours per year, AP-42 emission factor, and a control efficiency of 99%.

Periodic Monitoring:

- **Opacity Emissions**

1. This facility shall perform weekly inspection of the baghouse(s) to verify proper operation. The following activities shall be performed:

   (a) Once per week check hopper, fan and cleaning cycle for proper operation.
   (b) Once per week a visual check of all hoods and ductwork.

2. This facility shall perform an annual inspection of the baghouse(s) to verify proper operation. The following activities shall be performed:

   (a) Once per year inspect baghouse(s) structure, access doors, door seals, and bags.
   (b) Once per year perform an internal inspection of the baghouse(s) hoppers.

Compliance Assurance Monitoring (CAM)

This unit has potential pre-control particulate matter emissions greater than the major source amount which is controlled by a baghouse. CAM is applicable to this unit for the particulate matter emissions. The facility has proposed to monitor the visible emissions from the baghouse daily during operations by someone trained in method 9 opacity reading. Also, the facility proposed to monitor the pressure drop across the baghouse daily.

Molding Line C with Baghouse:

Note. *As stated in a letter from EPA to the Department, dated August 10, 2005, lost foam molding was not included in the definition of molding line in the Iron and Steel foundries MACT. The controlled pouring stations associated with this unit are subject to the requirement specified in the Iron and Steel foundries MACT.*

Emissions Standards:

- **Particulate Matter Emission Standard**

1. Particulate emissions from Molding Line C (Lost Foam Casting Unit, Lost Foam Shakeout, Sand System, and Pouring and Cooling) shall not exceed the lesser of the Anti-PSD combined particulate emissions limit of 4.95 lb/hr out of the baghouse stack or the process weight allowable.

   ADEM Admin. Code R. 335-3-14-.04 (8)

   and

   $E = 3.59(P)^{0.62}$ ($P < 30$ tons/hr)
   $E=17.31(P)^{0.16}$ ($P \geq 30$ tons/hr)
   Where E = Emissions in pounds per hour
   P = Process weight per hour in tons per hour

   ADEM Admin. Code R. 335-3-4-.04

2. Particulate matter emissions from each pouring station shall not exceed 0.010 gr/dscf or, alternatively, metal hazardous air pollutants emissions shall not exceed 0.0008 gr/dscf.

   40 CFR §63.7690 (a)(1) Subpart EEEEE

- **Opacity Standards**

1. Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

   ADEM Admin. Code R. 335-3-4-.01(1)

2. Each building or structure housing any emission source must not discharge any fugitive emissions to the atmosphere that exhibit opacity greater than 20 percent (6-minute average); except for one 6-minute average per hour that does not exceed 27 percent opacity.

   40 CFR §63.7690 (a) (7) Subpart EEEEE

Expected Emissions:

- **Particulate Matter Emissions**

Expected particulate emissions from Molding Line C are 2.81 lb/hr or 6.95 TPY. This is based on the AP-42 emissions factors, 4500 operating hours per year, and a control efficiency of 99%.

Periodic Monitoring:

- **Opacity Emissions**

1. The capture system associated with these units must comply with the operation and maintenance requirements specified in 63.7710 as applicable.

   40 CFR §63.7710 Subpart EEEEE

Compliance Assurance Monitoring (CAM)-Particulate Matter

This unit has potential pre-control particulate matter emissions greater than the major source amount which is controlled by a baghouse. CAM is applicable to this unit for the particulate matter emissions. The facility has proposed to monitor the visible emissions from the baghouse daily during operations by someone trained in method 9 opacity reading. Also, the facility proposed to monitor the pressure drop across the baghouse daily. Since these parameters along with the above periodic monitoring will also be required by the Iron and Steel MACT (Subpart EEEEE), this has been determined to be sufficient.

Grinding Stations with Baghouse:

Emissions Standards:

- **Particulate Matter Emission Standard**

Particulate emissions from the Grinding Stations shall not exceed the lesser of the Anti-PSD combined particulate emissions limit of 2.02 lb/hr out of the baghouse stack or the process weight allowable.

ADEM Admin. Code R. 335-3-14-.04 (8)

and

$E = 3.59(P)^{0.62}$ ($P < 30$ tons/hr)
$E=17.31(P)^{0.16}$ ($P \geq 30$ tons/hr)
Where E = Emissions in pounds per hour
P = Process weight per hour in tons per hour

ADEM Admin. Code R. 335-3-4-.04

- **Opacity Standards**

1. Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

   ADEM Admin. Code R. 335-3-4-.01(1)

2. Each building or structure housing any emission source must not discharge any fugitive emissions to the atmosphere that exhibit opacity greater than 20 percent (6-minute average); except for one 6-minute average per hour that does not exceed 27 percent opacity.

   40 CFR §63.7690 (a) (7) Subpart EEEEE

Expected Emissions:

- **Particulate Matter Emissions**

Expected particulate emissions from the Grinding Stations are 0.97 lb/hr or 2.18 TPY. These emissions are based on 4500 operating hours per year, AP-42 emission factor, and a control efficiency of 99%.

Periodic Monitoring:

- **Opacity Emissions**

1. This facility shall perform weekly inspection of the baghouse(s) to verify proper operation. The following activities shall be performed:

   (a) Once per week check hopper, fan and cleaning cycle for proper operation.
   (b) Once per week a visual check of all hoods and ductwork.

2. This facility shall perform an annual inspection of the baghouse(s) to verify proper operation. The following activities shall be performed:

   (a) Once per year inspect baghouse(s) structure, access doors, door seals, and bags.
   (b) Once per year perform an internal inspection of the baghouse(s) hoppers.

Compliance Assurance Monitoring (CAM)-Particulate Matter

This unit has potential pre-control particulate matter emissions greater than the major source amount which is controlled by a baghouse. CAM is applicable to this unit for the particulate matter emissions. The facility has proposed to monitor the visible emissions from the baghouse daily during operations by someone trained in method 9 opacity reading. Also, the facility proposed to monitor the pressure drop across the baghouse daily.

Goff Hanger Table Shotblast with Baghouse:

Emissions Standards:

- **Particulate Matter Emission Standard**

Particulate emissions from the Goff Hanger Table Shotblast shall not exceed the lesser of the Anti-PSD combined particulate emissions limit of 0.50 lb/hr out of the baghouse stack or the process weight allowable.

ADEM Admin. Code R. 335-3-14-.04 (8)

and

$E = 3.59(P)^{0.62}$ ($P < 30$ tons/hr)
$E=17.31(P)^{0.16}$ ($P \geq 30$ tons/hr)
Where E = Emissions in pounds per hour
P = Process weight per hour in tons per hour

ADEM Admin. Code R. 335-3-4-.04

- **Opacity Standards**

1. Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

   ADEM Admin. Code R. 335-3-4-.01(1)

2. Each building or structure housing any emission source must not discharge any fugitive emissions to the atmosphere that exhibit opacity greater than 20 percent (6-minute average); except for one 6-minute average per hour that does not exceed 27 percent opacity.

   40 CFR §63.7690 (a) (7) Subpart EEEEE

Expected Emissions:

- **Particulate Matter Emissions**

Expected particulate emissions from the Goff Hanger Table Shotblast are 0.20 lb/hr or 0.45 TPY. These emissions are based on 4500 operating hours per year, AP-42 emission factor, and a control efficiency of 99%.

Periodic Monitoring:

- **Particulate Matter/Opacity Emissions**

1. This facility shall perform a visual check, once per day, of the baghouse(s) stack associated with these units. This check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

2. This facility shall perform monitor and record the pressure drop across the baghouse(s) once per day.

3. This facility shall perform weekly inspection of the baghouse(s) to verify proper operation. The following activities shall be performed:

    (a) Once per week check hopper, fan and cleaning cycle for proper operation.
    (b) Once per week a visual check of all hoods and ductwork.

4. This facility shall perform an annual inspection of the baghouse(s) to verify proper operation. The following activities shall be performed:

    (a) Once per year inspect baghouse(s) structure, access doors, door seals, and bags.
    (b) Once per year perform an internal inspection of the baghouse(s) hoppers.

<u>Compliance Assurance Monitoring (CAM)</u>

This unit's potential pre-control emissions are less than the major source thresholds. Therefore, this unit would not be subject to Compliance Assurance Monitoring (CAM).

Continuous Shotblast with Baghouse:

Emissions Standards:

- **Particulate Matter Emission Standard**

Particulate emissions from the Continuous Shotblast shall not exceed the lesser of the Anti-PSD combined particulate emissions limit of 1.53 lb/hr out of the baghouse stack or the process weight allowable.

ADEM Admin. Code R. 335-3-14-.04 (8)

or

$E = 3.59(P)^{0.62}$ ($P < 30$ tons/hr)
$E=17.31(P)^{0.16}$ ($P \geq 30$ tons/hr)
Where E = Emissions in pounds per hour
P = Process weight per hour in tons per hour

ADEM Admin. Code R. 335-3-4-.04

- **Opacity Standards**

1. Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

   ADEM Admin. Code R. 335-3-4-.01(1)

2. Each building or structure housing any emission source must not discharge any fugitive emissions to the atmosphere that exhibit opacity greater than 20 percent (6-minute average); except for one 6-minute average per hour that does not exceed 27 percent opacity.

   40 CFR §63.7690 (a) (7) Subpart EEEEE

Expected Emissions:

- **Particulate Matter Emissions**

Expected particulate emissions from the Continuous Shotblast are 0.94 lb/hr or 1.87 TPY. These emissions are based on 4500 operating hours per year, AP-42 emission factor, and a control efficiency of 99%.

Periodic Monitoring:

- **Opacity Emissions**

1. This facility shall perform weekly inspection of the baghouse(s) to verify proper operation. The following activities shall be performed:

    (a) Once per week check hopper, fan and cleaning cycle for proper operation.
    (b) Once per week a visual check of all hoods and ductwork.

2. This facility shall perform an annual inspection of the baghouse(s) to verify proper operation. The following activities shall be performed:

    (a) Once per year inspect baghouse(s) structure, access doors, door seals, and bags.
    (b) Once per year perform an internal inspection of the baghouse(s) hoppers.

Compliance Assurance Monitoring (CAM)-Particulate Matter

This unit has potential pre-control particulate matter emissions greater than the major source amount which is controlled by a baghouse. CAM is applicable to this unit for the particulate matter emissions. The facility has proposed to monitor the visible emissions from the baghouse daily during operations by someone trained in method 9 opacity reading. Also, the facility proposed to monitor the pressure drop across the baghouse daily.

Painting Lines:

Note. *The facility has elected to use the "emissions rate without add-on controls option" to demonstrate compliance with 40 CFR 63 Subpart MMMM.*

Emissions Standards:

- **Volatile Organic Compound (VOC) Emission Standard**

1. The total throughput of paint for this unit shall not exceed 16,174 gallons in any consecutive twelve (12) month period.

2. The VOC content of the paint used in this unit shall not exceed 4.0 lb/gallon.

3. The total throughput for thinner for this unit shall not exceed 9,582 gallons in any consecutive twelve (12) month period.

ADEM Admin. Code R. 335-3-14-.05 (NSR Avoidance)

- **Organic Hazardous Air Pollutant (HAP) Emissions Standard**

1. Each affected source as defined in §63.3882 must limit organic hazardous air pollutant emissions to no more than 0.31 kg (2.6 lb) per liter (gallon) coating solids used during each 12-month compliance period.

   40 CFR §63.3890 (b) (1) Subpart MMMM

Expected Emissions:

- **Volatile Organic Compound (VOC) Emissions**

Expected VOC emissions from the paint and primer are 3.11 lb/hr (13.64 TPY) and 5.13 lb/hr (22.5 TPY), respectively. These emissions are based on operating hours of 8760 hours per year and AP-42 emission factor.

Periodic Monitoring:

- **Volatile Organic Compound (VOC) Emissions**

1. Records showing the monthly and twelve (12) month rolling total paint and thinner usage and VOC content of the paint shall be kept at the facility in a form suitable for inspection for a period of at least five (5) years following the usage of the material.

2. The facility must meet the applicable notification, reports, and records requirements specified in §63.3910, §63.3920, and §63.3930

   40 CFR §63.3910, §63.3920, and §63.3930 Subpart MMMM

Compliance Assurance Monitoring (CAM)

This unit is uncontrolled. Therefore, this unit would not be subject to Compliance Assurance Monitoring (CAM).

Pouring & Cooling (Lines A & B):

Note. *Since there is no conveyance system associated with these units, there no applicable requirements for the Iron and Steel Foundries MACT other than building opacity.*

Emissions Standards:

- **Opacity Standards**

Each building or structure housing any emission source must not discharge any fugitive emissions to the atmosphere that exhibit opacity greater than 20 percent

(6-minute average); except for one 6-minute average per hour that does not exceed 27 percent opacity.

40 CFR §63.7690 (a) (7) Subpart EEEEE

Expected Emissions:

- **Particulate Matter Emissions**

Expected particulate emissions from lines A and B are 7.40 lb/hr or 16.7 TPY. These emissions are based on the AP-42 emission factor, the throughput and a building capture of 70%.

Periodic Monitoring:

- **Opacity Emissions**

Compliance Assurance Monitoring (CAM)

These units are uncontrolled. Therefore, these units would not be subject to Compliance Assurance Monitoring (CAM).

Scrap Handling & Drying:

Emissions Standards:

- **Particulate Matter Emission Standard**

This source is subject to no additional specific requirements other than those listed in the General Permit Provisos.

Expected Emissions:

- **Particulate Matter Emissions**

Expected particulate emissions from this unit are 2.80 lb/hr or 6.30 TPY. This is based on AP-42 emissions factors and 4500 operating hours per year.

Periodic Monitoring:

- **Opacity Emissions**

This facility must prepare and operate, at all times, according to a written plan for the selection and inspection of iron and steel scrap to minimize, to the extent practicable, the amount of organics and HAP metals present in the charge materials used by the iron and steel foundry. This scrap selection and inspection plan is subject to approval by the Administrator and must be kept onsite, available to all plant personnel with materials acquisition or inspection duties. This plan must include information specified in 63.7700.

40 CFR §63.7700 Subpart EEEEE

Compliance Assurance Monitoring (CAM)

This unit does not have a control device. This unit would not be subject to CAM.

Green House Gases:

Grede II, LLC – Columbiana's Potential Maximum and Annual Average GHG's are a direct result from the burning of Natural Gas (NG), the Potential Maximum CO_2 is 9,022 TPY.

Recommendation:

Based on the above analysis and pending the resolution of any comments received during the 30-day public comment period and 45 day EPA review, I recommend issuing Grede II, LLC – Columbiana's Title V MSOP renewal.

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Paul J. Vaccaro
Industrial Minerals Section
Energy Branch
Air Division
Date: 3 June 2016